

Putting the PLE¹ Into PLD: Virtual Professional Learning and Development

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Abstract

The range of affordances that a virtual environment offers can provide opportunities for more formal Professional Learning and Development (PLD) that has flexibility of choice, time and approach for educators. It was this potential that inspired the design of the Virtual Professional Learning and Development (VPLD) program that was instigated in October 2009 by the NZ Ministry of Education, who also funded the project.

The findings from the pilot of the VPLD program in 2010 indicated that when professional learning was situated within the practitioner's context, and with complementary, easily-accessible opportunities for sharing of practice within an online Community of Practice, participants demonstrated high levels of engagement as well as changes in their own teaching practice. The VPLD Programme was facilitated and researched again during 2011, building on findings from 2010. Findings to date suggest that the educators developed a sense of self-efficacy that motivated them to trial alternative approaches, and to initiate iterative cycles of trial, error, and improvement.

Keywords: personal learning environments, PLE, communities of practice, mentoring, lifelong learning, contextualised learning, eLearning, virtual mentor

¹ Personal Learning Environments have a wide range of definitions. In this paper a Personal Learning Environment is defined as an environment and resources loosely amalgamated to enable “a self-directed approach [where] learners take control of their own education, such that they may choose learning outcomes to work towards, plan their learning to realise those outcomes, construct knowledge in the process of learning, monitor progress toward outcome realization, re-plan and modify outcome goals as need be, and assessed when they have realised their goals. This process may be performed alone or with the assistance of others” (van Haremelen, 2008, p. 36).

INTRODUCTION

You are a teacher in a small rural college, and are keen to continue to develop professionally. Every day you take a walk and listen to podcasts about education innovation; you also dip into your Google Reader, and have several colleagues you follow on Twitter. You still feel isolated though, and no-one in your current school really has a clue what you are doing. However, you would like to undertake slightly more formal professional development: The nearest place that offers seminars is a three hour drive away; webinars are good – but both seem to be somewhat haphazard because you don't have a defined sense of where you are heading professionally. The idea of enrolling onto a certificate or diploma fills you with horror given your current work commitments, but you do have a wide range of ideas that you would like to integrate into your practice. (Author, 2013)

This brief scenario should sound familiar because it is the situation that many educators face. However, the range of affordances that a virtual environment offers can be exploited to provide more formal Professional Learning and Development (PLD) that has flexibility of choice, time and approach for educators, thereby enabling them to build and shape their knowledge and skills, all within the framework of their own context, and supported by mentoring and an online Community of Practice (CoP). It was this potential that inspired the design of the Virtual Professional Learning and Development (VPLD) program that was instigated in October 2009 by the New Zealand Ministry of Education, who also funded the project. The VPLD model and approach was piloted and evaluated in 2010 with ten teachers from the tertiary, secondary and primary sectors, and was rolled out in 2011 with a total of twenty teachers and principals (including eight participants who continued from 2010).

Participants were from a variety of locations in NZ, as well as a range of disciplines, and diverse backgrounds, ethnicities and cultures.

Complementary to and drawing data from the overarching research study conducted during 2010 and 2011, four stories of change have been developed. The aim was to enable a close inspection of possible embedding of new professional knowledge, practice and beliefs, as well as an exploration of how the participants constructed their knowledge and made sense of their learning. The stories of change are not exhaustive, but rather they are representative of the trends that have been observed across the VPLD program. Two of these stories of change are described in this paper. The examples have been chosen to illustrate educators in different locations in New Zealand, and across disciplines. This paper illustrates some of the dynamics and results of the VPLD approach by presenting the two stories of change, along with other illustrative data.

LITERATURE REVIEW

Over the last ten years there has been growing interest in Personal Learning Environments in a variety of disciplines. Accordingly a relatively wide range of definitions has been developed. In this paper a Personal Learning Environment is defined as an environment and resources loosely amalgamated (to view conceptual diagram go to <http://bit.ly/KrLx7Z>) to enable “a self-directed approach [where] learners take control of their own education, such that they may choose learning outcomes to work towards, plan their learning to realise those outcomes, construct knowledge in the process of learning, monitor progress toward outcome realization, re-plan and modify outcome goals as need be, and assessed when they have realised their goals. This process may be performed alone or with the assistance of others” (van Haremelen, 2008, p. 36).

Learning is a social phenomenon, and education practitioner professional development is gradually being re-shaped to reflect this phenomenon. Shifts toward contextualised, personalized, self-paced learning, underpinned by the development of an online professional social identity are challenging notions of what actually comprises Professional Learning and Development provision. This challenge means that the shift is not a simple process because it requires wider understandings around expectations of what Professional Learning and Development should be and what it should provide (JISC, 2009), as well as discussions as to how education institutions are going to support and recognise practitioners who wish to participate in it. Stoll (2004) indicates that PLD might take the form of participation in professional learning communities and learning networks, which enables professional development to be situated in the education context, in part because “teaching is complex, so ... [educators] need to keep learning throughout their career... [and] many challenges [that] staff face are local challenges and need to be addressed ‘on the ground’” (p. 2).

Stoll (2004) suggests that Professional Learning and Development might take the form of participation in professional learning communities, communities of practice, and learning networks - all of which are underpinned by a wider conceptual of social learning. The notion of learning networks includes formal and informal learning and social interactions and different educational contexts, and is closely allied to Personal Learning Environments if the latter is also seen as including a “collection of access points to objects, people and services in one Learning Network” (Reinhardt, & Mletzko, 2011, p. 14). Communities of Practice - a theory developed in the latter half of the 1980s and in the 1990s by Lave and Wenger, and since extended (by e.g. Hildreth, Kimble, & Wright, 2000) - encompass the notion of 'situated learning' whereby practitioners construct meanings collectively in a community (Wenger, 1998). When Communities of Practice are an integral part of PLD they can provide formal

and informal learning opportunities, as well as a space for practitioners to participate in conversations around learning and teaching and share practices (Brown & Duguid, 2000).

Often used interchangeably with the term learning networks, online Communities of Practice build on the definition and practices of face-to-face Communities of Practice, although they are necessarily distinguished by the fact that communication and collaboration is via computer mediated communication. There is a wide range of definitions for online Communities of Practice, but most include notions of a group of people who, via a common space on the Internet, engage in public discussions, interactions, and information exchanges (Tilley, Hills, Bruce, & Meyers, 2006). Lai et al (2006) define the unique characteristics of an online CoP as: 1) top-down in design, 2) taking longer to develop, 3) comprising members who usually do not know each other before they join, 4) where leaders are recruited as opposed to emerging from the community, and 5) where some form of technological support is required to help ensure the survival of the CoP. Ashe and Bibi (2011) suggest that these online spaces may provide the potential to create complementary contexts for learning, whereby a member of an online CoP can build capability through “focused, purposeful, and immediately useful conversations, resources and support” (Flagg & Ayling, 2011, p. 387) – all factors which can build toward reform.

A practitioner’s work-context will include history, customs, rituals, and narratives that help define their education community and their learning experiences (Shea, Pickett, & Pelz, 2004). Contextualised Professional Learning and Development that recognises the sociocultural considerations of learning has been reported to also have a positive impact on student learning outcomes, partly because there is a direct connection between principles of effective teaching practices, recognition of relevance and consequent adaptation of those

practices to local circumstances (Timperley, 2008). When PLD is situated educators are more likely to apply strategies to address known issues around student learning in their specific learning community (Timperley et al, 2007), while also actively engaging in the exploration, development and application of conceptual frameworks that encourage consideration of their students in a new light (Timperley et al, 2007).

OVERVIEW OF THE VPLD

The Virtual Professional Learning and Development (VPLD) program has no formal 'content', and no central education institution or accredited qualifications; rather the program offers a customizable Professional Learning and Development experience in which there are multiple ways to participate (see Figure 1). The program is of three years duration; in the first two years education practitioners and leaders work on projects that interest them, driven by their own investigation and based on the needs of their students and school community. In the third year, participants focus on transitioning into a virtual mentor role, but can also choose to continue work on their original project. The PLD itself is subsumed within the educator's function of being part of their own school's/institution's community, rather than being the central focus as can happen with more traditional approaches to Professional Learning and Development.

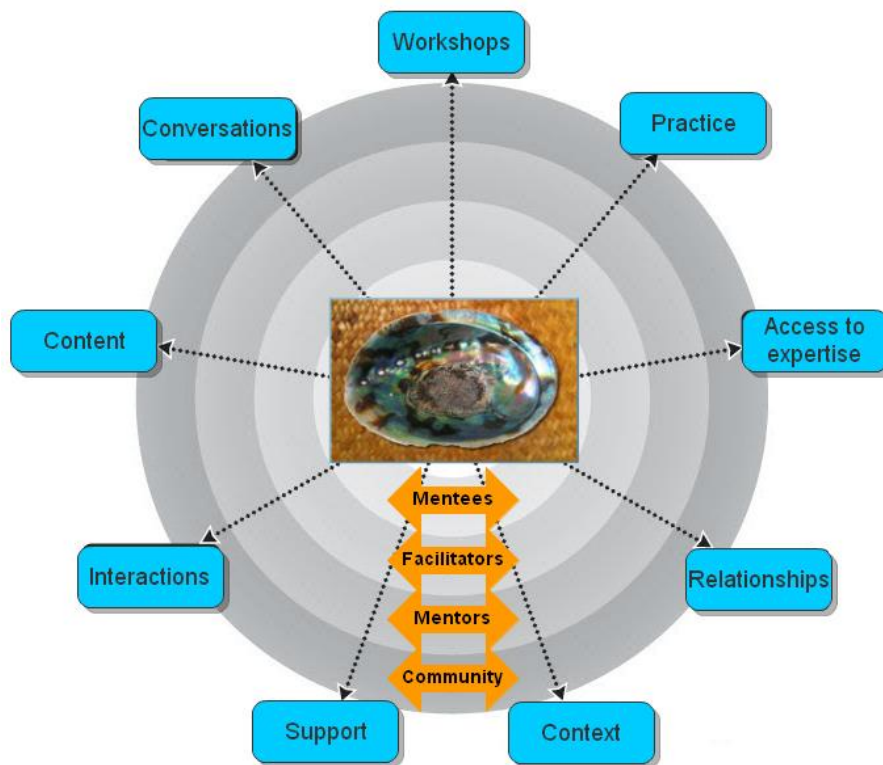


Fig. 1. Components of Virtual Professional Learning and Development program that meets diverse requirements and interests of participants (adapted from Wenger, White, & Smith, 2009)

Participants usually have a fledgling virtual Personal Learning Environment and there is a seamless organic overlap between the local and global knowledge networks they are already active in and the VPLD online CoP. Reflections, data, experiences, ideas, and resources are shared in a two way flow – developed within wider Personal Learning Environments and shared with the VPLD, and developed within the VPLD and shared with wider Personal Learning Environments.

Each participant is partnered with a virtual mentor with whom they meet online, using Adobe Connect or Skype, once a month for between forty-five and ninety minutes. There is no set of topics or items that have to be covered in each session, although, all mentees undergo a needs analysis, set goals, and plan at the beginning of the year, reflect on these as the year proceeds, and then appraise their progress at the end of the year. As such, virtual mentoring strategies

are customised to suit the needs of both the mentee and the virtual mentor, and during monthly meetings a variety of subjects are discussed including pedagogy, what the participant has been working on with their students in terms of changes to their teaching practice, and how their students have reacted. The participant also identifies areas of support they need, and plans 'next steps' and interim goals. Currently there are three virtual mentors employed as paid facilitators within the VPLD project.

The virtual mentors need a wide set of skills and experience, in particular around the ability to recognise and accommodate individual needs and sociocultural factors. The role is a demanding one (see, for example, this 'a day in the life of...' resource: <http://bit.ly/IgjnQL>), requiring a commitment of time that extends beyond what might be required in a face-to-face environment. As such, meta skills such as time management, planning and boundary setting are, arguably, as important as communication skills. Being able to work as a team is paramount too, as the wide variety of needs calls for a lot of co-mentoring, and encouragement of peer-mentoring, as well as networking with the wider education community. Developing virtual mentors, after attending an initial face-to-face two-day workshop, are then themselves mentored while building their skills. Some of the practical strategies used include:

- Role playing virtual mentor / mentee meetings while being observed. The group then unpacks the key points and approaches
- Shadowing another virtual mentor in meetings with mentees (with the mentee's permission)
- Development of a set of guidelines and protocols for all virtual mentors
- Use of a peer observation rubric for virtual mentor / mentee sessions
- Being mentored through the process of their own goal setting plans / needs analysis

- Appraisal of mentors at the end of the year by the team leader with reference back to goal setting / needs analysis

An integrated model of virtual professional development that relies on learning and working collaboratively is likely to be enhanced by a face-to-face meeting where possible (Owen, 2011). In part this provides an opportunity to establish working relationships (Milligan, 1999), and is especially useful as an aid to social cohesion, especially if educators are unfamiliar with participating in an online community and/or via computer mediated communication (Owen, 2011). As part of the VPLD 2010 trial there were two face-to-face meetings, whereas in 2011, due to growing numbers and limited funding, there was only one.

RESEARCH

Since inception the VPLD was studied by the author who aimed to collect qualitative and quantitative data to generate a rich, examinable body of evidence, which performs an iterative feed-forward function as well as providing outcomes and comparative longitudinal evaluation data.

The longitudinal research approach was included to capture evidence of emerging patterns and tendencies through repeated observations of the same variables over an extended period of time. Due to repeated observation on an individual level over time, longitudinal studies, unlike cross-sectional studies in which different individuals with same characteristics are compared, make the observation of changes in attitudes, beliefs, and behaviors, more accurate (Anderson, 2005).

The study focused on evaluating the efficacy of the design of the VPLD. The main questions underpinning this study included:

- How are participants' opinions of the value of the VPLD project affected by participation in the VPLD CoP?
- How does working with a mentor affect participants' opinions about their own efficacy and teaching practice?
- Which external factors have an effect on access to and satisfaction with the VPLD program?
- What are the observed effects on participants over the course of the VPLD program?
- What are participants' opinions about the effects of shifts in their teaching practice on their students' achievement and engagement?

The tools used to collect data included (but are not limited to) three online surveys per year (January, June, and November/December), recorded discussions and notes from virtual mentor meetings, contributions from all areas of the VPLD online CoP, Webinar sessions, and emails. The surveys, designed with mainly open-ended questions, aimed to gather richer, fuller understandings of the experiences of the VPLD participants. The quantitative data were exported into Excel, analysed and interpreted. A qualitative approach was used to interpret the open-ended survey responses. Recurring words were noted as possible emergent themes and used as codes. Comparative methods of analysis were used during coding (Charmaz, 2008).

Online communities take time to form (Hallam, 2008), and might only have a few active contributors. At the time of publication, the VPLD online CoP had 120 members. Within the online space 374 resources blog posts have been created (50% by CoP facilitators), 49 discussion forums (75% created by CoP facilitators), 187 videos have been shared (90% by CoP facilitators), and 190 comments have been posted (50% by CoP facilitators). The data for 2010, however, paints a different picture. In February 2010, for example, there were 5 blog posts, 4 of which were made by the community facilitator, compared with 17 in February 2012, 6 of which were made by community facilitators. In

2010, the maximum number of posts were 20 (September), 7 of which were made by participants. It was indicated by 80% of the initial members that they had not been members of an active online community before. This suggests that they may not have been aware of the level of engagement required to create a vibrant community, and in turn, may not have possessed the associated requisite skills.

The findings map the gradual growth and maturation of the community, and the confidence and skills of participants. Some participants immediately started to comment, post and share, while others required time to process internally and become a part of the CoP. Time and opportunities needed to be provided for participants to build an identity within a newly formed group - “as I have gotten to know people in the group I have become less inhibited in contributing ideas” (survey response, 2010).

Working with a virtual mentor was also identified as a key aspect of developing new concepts:

Having a mentor to share ideas with, use as a sounding board ... and even from time to time vent frustration on...is a key element of the VPLD. It gives you an independent, completely understanding and knowledgeable critical friend to help.... (survey response, 2011).

The strengthening of identity and feeling of socially-mediated shared understandings and experiences also helped lessen the sense of isolation, and strengthened resilience in the face of change. As one participant wrote:

Sometimes you feel very isolated (e.g. I am the only French teacher in my school) and you feel you are the only one doing what you do. Being part of the VPLD made me realise that I am not alone and gave me the opportunity to grow...as I could read what

others were doing. This gave me great ideas to try in my own class (end of year reflection, 2011).

A sense of re-invention and renewal was also expressed by participants:

What a difference a year makes. Prior to becoming a participant in the VPLD I had been reflecting for a few years as to whether I even wanted to continue in the teaching profession. I was tired of asking students to ‘copy this down’ and I was sometimes struggling to engage students as participants in their learning instead of just passive recipients. My reflections and my timely introduction to the VPLD started me down the path of ‘what if’ (end of year reflection, 2011).

There have been corresponding positive behaviors from students such as “I see my students bouncing into the classroom, and where before they might be packed up and ready to go 10 minutes before the end of a lesson, now it's often tricky to get them to stop working!!” (end of year reflection, 2011). Students became co-constructors of outcomes and facilitators of sessions, as well as more confident, engaged learners who were “empowered ...to learn on their own terms” (Survey response, 2011).

I think that I as a teacher [I] am now obsolete but my role as a facilitator is primordial and very active. Because the students are now in charge of their own learning, I am no longer at the front of the class. Instead I am sitting among them and I can go around and help them. I actually now have more time to spend with the kids to enhance their learning (reflective post, 2011).

Stories of Change

Complementary to, and drawing data from the overarching research study, four stories of change have been developed. The case study method was employed, and followed four stages - design, conduct, analyze the evidence, and develop conclusions, recommendations and implications (Yin, 2009). The aim was to enable a close inspection of possible embedding of new professional knowledge, practice and beliefs, as well as an exploration of how the participants constructed their knowledge and made sense of their learning. The stories of change are not exhaustive, but rather they are representative of the trends that have been observed across the VPLD program. Due to space limitations, only two of these stories of change are summarized in the section below. The examples have been chosen to illustrate primary and secondary sectors, in different locations in New Zealand, and across disciplines. As far as possible, the practitioners' own words are used, but names and identifying features have been changed to preserve anonymity.

Story of Change: Melanie

Background / Description.

Melanie is Assistant Principal at a secondary school in New Zealand, where she also teaches Horticulture. At X College over 60% of students are of Māori (a member of the indigenous people of New Zealand) extraction. While participating in the VPLD Programme, which she joined in May 2011, Melanie was also completing a qualification in Information Technology for teachers.

The focus.

One main issue for education providers in New Zealand is that there is “a group of students, many of whom are Māori, Pasifika or who have special education needs, who are not succeeding and for whom the system is not delivering” (Ministry of Education, 2010, p. 24).

This story of change involves Melanie's Level 1 Horticulture class, and her focus on

improving “Māori engagement so that it leads to improved Māori achievement in my classes” (goal setting document), as well as her moving forward in her leadership role.

What Happened? (Process and results).

Melanie began by working with her virtual mentor to identify her needs and set goals for 2011. One consideration she identified was: “It is unknown if [information technology] IT will increase engagement but inquiry learning certainly will” (goal setting doc). She formulated a plan and then quickly started to implement it, participating in ‘just in time’ Professional Learning and Development, as well as formal Professional Learning and Development sessions, and posting reflections, which were shared with the online community. In July, Melanie observed “I have learnt so much – feel the pressure of TIME to try things out...– prioritize the time you spend on PLD as to whether it is meeting your goals....Done a lot of ...[prioritising] , lot of progress with kids” (mentor conversation). At the face-to-face hui (symposium) in June, Melanie facilitated a session on inquiry learning around the SAUCE² model developed by Trevor Bond. During the session she unpacked some of her reasons for and experiences of using this approach with her students. She also indicated that wanted to further develop culturally responsive learning experiences and felt that eLearning might offer a complementary aspect to the SAUCE model that would help achieve this aim. In particular Melanie was interested in providing flexible structures and opportunities that would be focused on the learners, be motivating for them, be designed for inclusivity, and, ultimately create a sense of belonging. She also recognised that the needs of her students (including academic, personal, social and whānau - family - needs) were driving the desire to trial alternative approaches (video recording).

² The SAUCE model was developed in New Zealand by Trevor Bond. It is a research and problem solving process for students that has been developed to help them develop information literacy skills to use in problem solving and research. SAUCE stands for: Set the scene, Acquire, Use, Communicate, Evaluate (Bond, n.d.).

Melanie, after the hui (symposium), described some of the approaches she used: “I am having a real blast with Google docs (since my experience using it at the Face to Face VPLD [in June]) and my students at school....have groups working on preparing documents collaboratively from which they can study for their exams....It is a great way for them to see something that they have made, and be able to use it for revision....The students were *instantly engaged* [emphasis in the original] with the fact that there was a chat facility, even one with their teacher looking in on it....” (reflective post). “This is how I did it. First I made a SAUCE inquiry sheet that they worked on by themselves. Once they had spent a couple of periods on that I introduced them to google [sic] docs and asked them to answer the same questions in the same format but all make sure that their ideas were...there.... Those students who hadn't done much originally or didn't know what to do were instantly buoyed by the idea that they could contribute even on a small scale” (reflective post). “One student chatted to me that she didn't know what to do and I asked her for the definition, she put it in chat quite happily and when I replied, that's a really good definition, she posted it onto the group document. It really gave her the confidence to help out and her knowledge has grown so much now” (reflective post).

By August, Melanie was extending her practice from using individual tasks and tools to starting to fully integrate the information and communication technology enhanced inquiry learning approach into the curriculum. Her students continued to be engaged, and she received positive feedback: “I was trying to think of a fun way to start a new unit of work on plant husbandry for my NCEA [National Certificate of Educational Achievement] Level 1 class and not having much luck on thinking of anything innovative. I decided to stick with the...SAUCE model and started out trying to find YouTubes...I came across one that was peppered with mistakes. I...decided to make that one the video ...the ‘setting of the scene’ was to ask the

students to identify as many mistakes as they could. Well, students love to see others make mistakes. They then had to choose [sic], in pairs, one aspect of plant processes and make a two minute YouTube ready to upload. INSTANT engagement, instant acquiring of knowledge required, using their knowledge [to create]... their scripts for the YouTubes (not wanting to make mistakes like the original) and they are now ready to upload their videos” (reflective post). “Instructions are all delivered through our Moodle so if students are away, or want to work at home, they can” (follow up comment to original post). Student feedback was mainly positive, and Melanie reports that “one of my students yesterday quietly told me he was so pleased I had introduced him to igoogole, said it really helped him organize his life with the calendar and gmail” (blog post). Melanie followed up with the comment that “I find that in Horticulture the new internal achievement standards at Level 1 are quite suited to inquiry learning....I am giving the students a lot more choice about what they study....It gives them a better understanding” (blog post).

September saw Melanie working through the final stages of reflection and evaluation. She indicated that the results to date have helped convince another teacher at her school to start working with a blended learning approach - something that was termed the ‘ripple effect’ by the VPLD community.

Melanie, by October, was working across several communities within the wider education community, sharing her own practice and experiences, as well as collaborating with, and learning from, others: “Been amazing to hear from other teachers – e.g., at Hort PD day....Melanie sharing resources & planning to Skype between two classes” (mentor notes). She reported that a blended inquiry learning approach appeared to have had an impact on student achievement of learning outcomes. The students were also invited to feed back about

their own experiences via an evaluative survey: “Work with Google Docs...and videos seems to have a positive result on ... senior exam results....7/8 passed - usually only 50% pass rate.... Evaluative survey – most scored highly for enjoyment (5), one scored very good (4) & another scored good (3) – Range 1 – 5; kids have enjoyed it.... Students are constructing their own understandings and so know their stuff, rather than regurgitate [sic] someone else’s information” (mentor notes).

The final reflections posted in November by Melanie were revealing, indicating a shift in her own professional identity and practice, as well as the influence she was having across her own context and beyond: “The best thing I did all year was join the VPLD group.... The ripple effect from that one decision has been AMAZING! I have tried all sorts of interesting and varied things in the class during the year.... I am still constantly amazed when I see and hear that teachers around the country have not moved into a more student centered approach....” (reflective post). “It hasn't always been perfect, but I have shared my trials with staff and many of them have taken ideas onboard and tried out stuff they haven't used before” (reflective post).

Overall outcomes.

The overall outcomes appear to be:

- Improvement in students’ achievement of learning outcomes; e.g. improved results in assessments - in the senior exam results seven out of the eight students passed, compared with the usual 50% pass rate
- Improvement in students’ assimilation/demonstration of key competencies; e.g. self-management - one of the students reported that access to online tools helped him with organization and time-management
- Improvement in students’ metacognitive skills; e.g. students reflecting on their role in the collaborative video making process

- A significant shift in teaching / mentor practice; e.g. moving to a more student-centered approach, and reflecting on the differences between this and her previous professional practice.

On the strength of her work and achievements, Melanie was recognised by a Senior Manager's Sabbatical Leave Award for ten weeks, to be taken in 2012, when she will take the opportunity to travel to the US to do some research that will help “marry up inquiry learning and eportfolios [sic] to work for my school and maybe other schools in my community. Am very excited....I want to start NOW!” (Blog post)

Story of Change: Mike

Background / Description.

Mike, who joined the VPLD program in January 2010, is the Deputy Principal, who also teaches Years 6, 7, and 8 students reading, writing, math, topic, and PE at a primary School. This specific story of change involves Mike’s learning journey over 2 years.

Focus.

A strong focus for education providers in New Zealand is helping build robust student literacy skills in primary schools, which “ensures students are more engaged with school, and succeed across the entire curriculum throughout their schooling and tertiary education.” (Ministry of Education, 2010, p. 14). This story of change maps Mike’s maturation of strategies to help his students build their literacy skills.

What happened? (Process and results).

When Mike started the program in 2010 he was trialing an inquiry learning approach with students, as well as using blended learning. “Mike is trying to get parents and the community involved....Mike's students work on a variety of projects and tasks, and... when they create something exceptional it is celebrated by being included in the class blog” (blog post). However, initially Mike needed support to develop his critical self-reflection skills, and sometimes seemed to be distracted by the tools rather than unpacking why some of his

students were not engaging. Through interaction with the online CoP members and working with a virtual mentor Mike started to really reflect on and deconstruct his own roles, and those of his students. As he explained, "I find it really good to sit down and to actually just talk about [pedagogy and practice]... and as ... [we] are talking it kind of prompts me to think of things" (mentor meeting transcript). By October 2010 Mike began to refine "what he is doing in reading groups.... It was great to ... discuss other strategies such as introducing skills incrementally rather than trying to cover all the skills for each aspect of the units to enable ... students...to cover things more thoroughly" (mentor notes). Mike also indicated that he was "going to be thinking a lot more about what he is going to be doing..., and how his change in views will impact what he wants to do / plan for next year. Had a great discussion of technology for the sake of technology versus student engagement and motivation, meeting a range of learning preferences" (mentor notes).

Two of the main goals that Mike identified for 2011 were "Develop a collaborative working environment for students. Students become self-managing and independent in their learning" (goal setting doc). During March he was discussing with his virtual mentor "student expectations...as well as his expectations as a teacher especially around the independence of his students" (mentor notes). June witnessed somewhat of an epiphany for Mike, who said he now realised it was not "so much about gaining new gizmos to try out or to find things to use in the classroom, but to engage with other teachers who are willing to change their practise [sic] to make them better teachers - and in turn improve engagement and achievement of their students" (face-to-face hui/symposium). And in July, Mike commented "The revelation for me is that it has me thinking about how I actually use google docs, which is more as a data gathering tool or work book.....I [want to] use it for more of the collaborative work that it is probably designed to do" (reflective post). In addition, Mike started to look at ways to

collaborate with other teachers. “You need to have a common curricula link and someone to work with that you know well...good opportunity to develop new working relationships with others” (mentor notes).

August 2011 saw Mike “thinking about whether the common teaching practises [sic] that we employ are the best for individualized teaching. I am thinking of employing a technique where I might teach a broad concept to a larger group of students....The difference here being that there is movement away from having reading groups where the students know which one is the ‘smart’ group and the ‘dumb’ group.... Students will still be getting their mileage from the reading topics and it gives time to pull students out and work more one-on-one rather than filling the day with reading group after reading group.... Also using YouTube and videos ... to further engage students. This would be followed up by research activities, thick and thin questions, blooms [sic] etc. Thinking about Inquiry – starting with a much bigger picture that will allow students to hone into a wider range of individual/group inquiry” (reflective post).

In September 2011, Mike trialed his idea for “mixed ability reading groups with half of the class doing Current Events. Other more able kids doing a novel study. Some direct instruction.... Track what they are doing & see who is having difficulties to pull out for more teaching. This has been hard as a lot of time is taken up in instructional phase” (reflective post).

Through reflection and experience, Mike returned to re-visit the blogs he had been using with students in 2010, and in October 2011 talked about “moving away from WOW (work of the week) to more documentation of the students’ learning in general. Instead of picking one thing they are most proud of, write about a range of things – like a learning map, not restricted

to once a week. Use as a resource to revisit – share as a class, randomly pick 2 or 3 to analyse together – group reflection. Blogs are their ePortfolios” (mentor notes). Student feedback was positive and Mike reported in October that “the kids really get into it, always something to share & asking lots of questions, always go over the scheduled time” (mentor notes). Mike concluded that he felt that his shifts in role and practice had provided his students with “the opportunity to take ownership of their learning. They are focused and attentive” (blog post).

Overall outcomes.

The overall outcomes appear to be:

- Improvement in students’ metacognitive skills; e.g. students reflecting as a group on their own selected work to identify strengths and areas that could be improved
- Improvement in students’ assimilation/demonstration of key competencies; e.g. participating in, and contributing to, inquiry based projects
- Increased involvement of families / whānau (family) and wider community; e.g. parents and whānau (family) could access their child’s blog to leave comments and ask questions
- A significant shift in teaching practice; e.g. a more personalised approach that helped him tailor learning for his students’ different literacy needs
- Ripple effect; e.g. collaborating with other teachers in his school where there was a possible cross-curricular link

Synthesis

An analysis of the two stories of change above suggests that the individuals who participated in the VPLD developed a sense of self-efficacy that motivated them to trial alternative approaches, and to initiate iterative cycles of trial, error, and improvement. The two participants’ sense of self-efficacy was reinforced when they shared their experiences within the intellectual construct of the VPLD community (which included their virtual mentor), and

where their endeavours and trials of different strategies were recognized, acknowledged, questioned and developed. In addition, the process of sharing resulted in gains in knowledge and skills (initially an integrative process where different types of knowledge intersected). However, with further trialing, and development of their identity as practitioners and contributing members of the VPLD community (Mayo, & Macalister, 2004), the process proved transformative resulting in new synthesised forms of knowledge (Graham, 2011).

Community and practice were found to be of equal importance in the reshaping of professional identity and knowledge, but for different reasons. The community provided the forum to ask advice, as well as for robust, healthy conversations about theory and practice (Hung, & Chen, 2001), alongside offers of resources and knowledge / practical assistance; the situated practice (which included reflection and personal inquiry) provided opportunities to talk with colleagues, seek feedback from students, and to tweak their approaches. The resulting reshaping of roles appears to have had an impact on learner engagement as well as motivation, especially where artefacts produced were accessed and critiqued by their peers and community.

Hung and Chen (2001) describe four key aspects for learning within a CoP - situatedness, commonality, interdependency, and infrastructure. These four aspects provide a useful framework for considering the implications of offering Professional Learning and Development following the model of the VPLD.

1. Situatedness - involved the active participation in tasks in authentic contexts, whereby learners develop deeper understanding through reflection and problem-solving based on implicit and explicit knowledge.

2. Commonality - members of community(ies) collaborate, and in the process build relationships and deepen identity. The collaboration, as well as being socially mediated, involves the use of a set of communally negotiated common understandings, rules, tools and language.
3. Interdependency - learners work together and in the process share experiences, knowledge and skills, which they are likely to have a range of mastery over or understanding of. As such, learners can scaffold each other's development in areas they are most capable.
4. Infrastructure - values and behaviors (such as reciprocity) that mature into models that augment the co-construction of knowledge and understanding, and in turn form processes that underpin projects and activities.

An analysis of the two stories of change above suggests that the individuals who participated in the VPLD, developed a sense of self-efficacy that motivated them to trial alternative approaches, and to initiate an iterative cycle of trial, error, and improvement. The two participant's sense of self-efficacy was reinforced when they shared their experiences within the intellectual construct of the VPLD community (which included their virtual mentor), where their endeavours and trials of different strategies were recognized, acknowledged, questioned and developed (situatedness). In addition, the process of sharing resulted in gains in knowledge and skills, as well as further development of identity as a practitioner and as a contributing member of the VPLD community (Mentis, Ryba, & Annan, 2001) (commonality). Community and practice were found to be of equal importance in the reshaping of professional identity and knowledge, but for different reasons. The community provided the forum to ask advice, as well as for robust, healthy conversations about theory and practice (Mayo, & Macalister, 2004, March), and offers of resources (infrastructure) and

knowledge / practical assistance (interdependency); the situated practice (which included reflection and personal inquiry) provided opportunities to talk with colleagues, seek feedback from students, and to tweak their approaches (situatedness). The resulting reshaping of roles appears to have had an impact on learner engagement as well as motivation, and an increased quality in the work produced, especially where it was accessed and critiqued by their peers and community.

CONCLUSION

The paper has illustrated some of the dynamics and possible results of participating in the VPLD program by presenting two vignettes. These vignettes, when framed within Hung and Chen's (2001) four dimensions of a fully functional CoP, clearly illustrate that the VPLD program provides scaffolded opportunities for learners (teachers and leaders) to develop their own capability (skills, knowledge), and to participate socially with other supportive education professionals while also (re)developing their identity as a member of the professional community and at the same time advancing their knowledge and skills (Mentis, Ryba, & Annan, 2001). In turn, the practitioners' learning and development in professional identity resulted in, for example, an increase in the development of students' metacognitive skills, as well as anecdotal evidence of improvements in student achievement of learning outcomes.

Lave and Wenger (1991) indicate that a learning communities are most effective when there are a variety of demands, competencies, and expertise so that members can scaffold one another through experiences, and these factors were certainly present in the VPLD program. It is important to note the role of the virtual mentor is critical for the personalized guidance and motivation that they provide, especially when education practitioners are under stress. The combination of individualised support and guidance, a community of peers with whom to tease out and develop ideas, and access to relevant resources has created a powerful, flexible

system of contextualised Professional Learning and Development. In addition, it is important to recognise the contributions made by “non-official brokers and opinion leaders” (Cranefield, Yoong, & Huff, 2011, p. 16) who are situated on the boundaries of the community. These brokers and opinion leaders have an important role in the cohesion of the community, while also challenging participants to reach beyond their comfort areas. One participant commented that I “see this as the way of the future and the most accessible, available professional learning for these current times” (Survey response).

There are some caveats though it might be argued that those such as time (i.e. the busy role of an educator in a school), connectivity, bandwidth and hardware are necessarily outside the scope of the VPLD team to address. However, this is a signal that further work can be done with school leadership and the wider education community to help ensure shift in school culture, support, and the value placed on alternative forms of professional learning and development.

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